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DELAY OF GRATIFICATION AND INTERNAL VERSUS EXTERNAL CONTROL AMONG LOW SOCIO-ECONOMIC ADOLESCENTS[1]

by

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Abstract

The present study compared the responses of Negro and white lower socio-economic ninth grade adolescents on belief in internal versus external control of reinforcement and delay of gratification under high and low status conditions. Negro students were significantly more likely to be external and to be less likely to delay gratification than were their white counterparts. A sex by race interaction approached significance with the difference between Negro and white females greater than the difference between Negro and white males in both internality-externality and delay of reinforcement. No relationship was found between internal-external control or the status conditions and delay behavior.

INTRODUCTION

Many psychologists have considered the methods and means by which a child understands and imposes order on his world. Several of these theorists include "expectancy" as a major concept in explaining how an individual learns to deal with the events that happen to him. Tolman (1934) described the occurrence of learning as the "building of an expectancy that a given sign in the environment will, by a behavior route, lead to a given significate." Brunswik, (1951) expanded this conception into a probability theory of learning which is the direct ancestor of most current stochastic models. While Brunswik was concerned with the objective probability of events as the organism adapts to them, Lewin (1951) stressed the perceptual subjective probability of events occurring. These two approaches are synthesized in Rotter's social learning theory (1954) and Rotter hypothesizes that behavior potential is a function of reinforcement value and expectancy. Within this model, a number of researchers (Phares, 1957; Rotter, Liverant and Crowne, 1961; Bennion, 1961; and Blackman, 1962) have demonstrated that expectancy or an understanding of situational contingency is of particular importance in the learning situation. Rotter (1966) has further described a generalized expectancy of internal versus external control of reinforcement and states:

> When a reinforcement is perceived by the subject as following some action of his own but not being entirely contingent upon his action, then in our culture, it is typically perceived as the result of luck, chance, fate, as under the control of powerful others, or as unpredictable because of the great complexity of the forces surrounding him. When the event is interpreted in this way by an individual, we have labeled this a belief in external control. If the person perceives that the event is contingent upon his own behavior or his own relatively permanent characteristics, we have termed this a belief in internal control.

In recent years, several pencil and paper tests have been devised to assess the degree of an individual's belief in internal versus external control (Phares, 1957; James, 1957; and Rotter, 1966). Studies using these scales have related internality-externality to numerous behavioral and personality variables (Rotter, 1966; Lefcourt, 1966). Of particular interest for the present study is the research of Lefcourt and Ludwig (1965) who found young black adult prison inmates more external than matched white subjects (Ss). Moreover, Battle and Rotter (1963) demonstrated an interaction between race and social class along the internal-external dimension. Lower class Negros were significantly more external than lower class whites or middle class Negros and whites. No relationship was found between sex and any of the internal-external measures. These findings, as well as Tulkin's (1968) work linking race variables to socio-economic level raise the question of the impact of the social environment on a generalized expectancy of behavior-rein-

forcement contingency. A major purpose of the present study is to control socio-economic level and to examine further the relationship of race and belief in internal-external control.

Another variable theoretically related to the internal-external belief dimension is that of self-imposed delay of reinforcement. Voluntary deferment of reward has been thought to be a prerequisite for normative social behavior and has been of major importance in a variety of theoretical formulations (Freud, 1922; Rapaport, 1951; Rotter, 1954; Singer, 1955; Piaget, 1943;;Aronfreed, 1964). Only recently, however, have self-imposed delay behavior and its antecedent conditions been subject to extensive and controlled experimental investigation. Perhaps the most comprehensive series of these studies is by Mischel (1966) who reports results suggesting that both situational and generalized expectancies are parameters of delay behavior. Mischel also demonstrates that delay behavior is influenced by models and model characteristics as well as by training. In addition others have suggested that low socio-economic Ss are more "immediate-minded," impulsive, and less likely to trust society and its agents for the possibility of future rewards (Douvan and Adelson, 1958; 1966; McCandless, 1967; Kagan, et al., 1964). Specifically, Maitland, (1967) has demonstrated that white boys from lower class families are less likely to delay than boys from middle class backgrounds. On the other hand, Seagull, (1966) emphasizes the importance of situational variables over class affiliation. Thus, a second major purpose of the current study is to examine the relationship of race again controlling socio-economic level, to self-imposed delay of reward. In addition, the present study will investigate the posssble relationship between sex and delay of gratification. Sex differences in delay behavior are reported in some studies (Mischel, 1966, Staub, 1966), while other investigators find no such relationship. (Mischel and Grusec, 1967) Where sex differences are reported, girls appear to be more susceptible to experimenter influences such as persuasion and modeling. (Staub,1966)

The third and final aspect of the study is to consider the possible relationship between the IE construct and delay of gratification. Both of these dimensions have a common theoretical ancestory and it seems, at first glance, that Ss who have a strong belief in internal control will be those Ss most likely to delay gratification. However, closer analysis may suggest that individuals delay gratification for at least two reasons. Those who are highly internal may have enough confidence in their control over reinforcement contingences and/or in the orderliness and predictability of the world to risk delay in order to receive a larger reward. On the other hand, high externals may voluntarily delay if they think that this is what is expected of them by powerful others involved in the situation. In veiw of these complicating factors, the current study manipulates the experimental situation by using experimenters of both high and low status to control the delay of gratification situation.

Considering past research, hypotheses are: 1) a race difference will be found with white Ss higher on internal control and delay of gratification than Negro Ss. 2) external Ss will delay under high status conditions and choose immediate rewards from the low status experimenter (E). Internal Ss will be consistent in their response across treatment conditions and will delay in both cases. Finally, the relationship between internality-externality, delay of reward and sex will be examined.

Method

Subjects. Ninth grade students, ages 14-17, from three urban public high schools served as Ss. The integrated schools serve inner city districts classified by the school system as poverty areas and enroll children of parents whose annual median income falls at $3,000 or below. One hundred forty-five Ss completed the Bialer Locus of Control Scale and of this group, 132 Ss completed the delay of reward measure under two status conditions. The high status condition included 14 Negro males, 19 Negro females, 16 white males and 11 white females. The low status condition Ss were 26 Negro males, 17 Negro females, 15 white males and 14 white females.

Procedure. All paper and pencil testing and the behavioral manipulations were done in cooperation with the school system over a period of approximately two months in the fall of 1968. The Bialer Locus of Control Scale, (Bialer, 1961) a twenty-three item questionnaire assessing the degree to which S reports himself to believe in luck, chance, fate or powers beyond his control as opposed to events occurring as a result of his own skills and activities served as the assessment instrument for internality-externality (IE). An illustrative item is "When somebody gets mad at you, do you usually feel that there is nothing you can do about it?" Tests were administered in classes by white adult male Es, and collected independently of and prior to the experimental manipulations of delay of reward.

One week after the Bialer scale was administered, Ss were given a delay of reward choice situation. The procedure was similar to that used by Mischel and Grusec, (1967) and involved instructions as follows:

On this sheet are five pairs of choices for you to make. In each case you must choose to receive a prize now or a larger one later. While you will make five choices you will actually receive one of the choices but you will not be told which one. Therefore, when making each choice you must assume that it may be the real one.

I choose to receive:

	Today		3 weeks from today
Choice No. 1	____ $1.00	or	____ $1.50
Choice No. 2	____ 1 teen magazine	or	____ 3 teen magazines
Choice No. 3	____ 1 hit record	or	____ 3 hit records
Choice No. 4	____ 1 candy bar	or	____ 1 box of candy bars
Choice No. 5	____ 1 small miniature pool table	or	____ 1 larger miniature pool table

Choices for immediate rewards received a score of 1 while those for delayed rewards received a score of 2. The purpose of the number of choices, was to allow an assessment of a general delay characteristic and to collect a range of data rather than a simple binary grouping. Samples of each of the possible choices were shown to Ss and large boxes were brought into the classroom indicating that E had a sufficient quantity of the soon-to-be-designated real choice to supply all those who chose immediate rewards. Immediate reward Ss received 1 record and three weeks later the delay choice Ss received 3 records.

Treatments. Es, different from those who administered the Bialer scale, included a white male official in the public school system as the high-status E and a white male college student as the low-status E. The official from the school system was dressed in business suit and tie while the college student was in casual clothes. Each introduced himself as follows:

Treatment A (high status)

"I am Dr. Watson with the Research and Development Department of the Atlanta Public School System. We are doing choice research to study how young people make choices and we would like you to assist us in this study."

Treatment B (low status)

"I am [real name], a student from Emory University. I am doing some choice research for one of my classes. You see, I have assignments just like you. We are studying how young people make choices. I really appreciate Miss Jones' [teacher] allowing me to come to your class and I know that you will cooperate with me so that I can get a good grade."

Results

To consider the distribution of internal-external scores, a 2 x 2, i.e., race by sex, analysis of variance was computed and results are shown in Table 1. A significant main effect for race was found ($F = 14.23$, $p < .001$) with white students more likely to describe themselves as internal than black students. No significant

main effects were found for sex. A sex by race interaction approaches significance ($F = 2.87$, $p<.10$) with the difference between Negro and white females being greater than the difference between Negro and white males.

To consider delay of gratification, a 2 x 2 x 2, i.e., race by sex by treatment, analysis of variance was computed. Results are shown in Table 2. A significant main effect of race was found ($F = 5.05$, $p<.05$) with Negro Ss less likely to choose delayed rewards than were white Ss. No significant main effect for sex or treatment was found. Again, a sex by race interaction approached significance ($F = 2.94$, $p<.10$) with essentially the same findings as the IE data.

Considering the third hypothesis of an interaction between high and low status treatment groups and the relationship between IE and delay, data were analyzed by multiple correlations and partialing techniques (DuBois, 1965). With sex and race held constant the product moment correlation coefficients for IE and delay in the high status and low status conditions suggest an interesting variability with coefficients ranging from .26 for black males under high status conditions to -.36 for white females under low status conditions. (See Table 3) However, none of the coefficients reaches significance ($<.05$). In looking at the overall relationships between internal-external control of reinforcement and delay of gratification, a Pearson Product Moment correlation was computed. The resulting correlation of .09 was insignificant suggesting that no clear relationship exists.

Discussion

Results of the present study clearly demonstrate a race difference between black and white adolescents of low socio-economic levels for belief in internal versus external control of reinforcement and delay of gratification. Specifically, Negro Ss appear to be more external and less likely to choose delayed rewards than white Ss. These findings are similar to those reported by Battle and Rotter (1963) and Lefcourt and Ludwig (1965) and suggest that the black adolescent has developed differing expectancies with regard to behavior-reinforcement contingencies than has his white counterpart. In considering internality-externality, it appears that the black adolescent as opposed to the white is less confident that his own behavior is related to subsequent reinforcement. Moreover, with regard to delay of gratification, the black adolescent also seems to be less trusting in the behavior of others who are sources of subsequent reinforcement

In a recent study, Zytkoskee and McCandless (1969), using a similar delay measure, found no race differences in preschool children of low socio-economic background. Considering this latter study in conjunction with results from the present research, it appears that the differential learning experiences and resulting

expectancies for black and white children are taking place during the elementary school years. Possibly this is the time when the black youngster is most likely to come to an increased awareness of cultural differences and his role in a predominantly white oriented and white controlled culture.

It is interesting to speculate on the suggested (beyond .10 level, two-tailed test) but nonsignificant interaction effects of the sex and race differences on both internal-external belief and delay behavior. It eppears that the race differences on the two measures are larger for girls than for boys. It should be noted that generally a rather sizeable percentage of Negro males drop out of school before reaching the ninth grade particularly in the lower socio-economic culture. Thus our present sample of Negro males could be biased toward those more likely to delay and more likely to demonstrate a belief that their behaviors are related to subsequent events.

Even including the manipulation of high and low status Es no significant relationship between internal-external control of reinforcement and delay behavior was found. This lack of relationship could be the result of several factors. It is possible that any person who is allowed to stand before a classroom is thus invested with status. It is also possible that, given the current higly publicized "generation gap", a number of adolescents may have more confidence in a young college age E than in the man who represents the establishment or the system. If this is the case, then clearly the present study failed to manipulate status conditions Aside from difficulties of methodlogy, it might also be argued that there is simply no differentiation between delay behavior in relation to internal-external control or that both internal and external Ss delay but possibly for different reasons.

Results of the present study indicate some potentially profitable directions for future research. For instance, how will a sample of middle-class white and Negro adolescents perform in relation to the present group? If the expectancy patterns for the black and white children begin differing sharply during elementary school when, precisely, does the greatest shift occur? Can the delay tendencies of high external Ss be experimentally altered more easily than those of high internals? Further research toward defining the relationship of socio-economic level, belief systems and delay behavior is clearly indicated.

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TABLE 1

Analysis of Variance of the Effects of Sex and Race on Scores of Internal Versus External Locus of Control

Source	df	MS	F
Sex	1	2	.33
Race	1	84	14.23**
Sex x Race	1	17	2.87*
Within	141	5.91	

* p⁄.10

** p⁄..001

TABLE 2

Analysis of Variance of the Effects of Sex and Race, and High Versus Low Status Experimenter on a Behavioral Measure of Self-Imposed Delay of Gratification

Source	df	MS	F
Sex	1	.36	.20
Race	1	9.04	5.05**
Treatment	1	.60	.34
Sex x Race	1	5.26	2.94*
Sex x Treatment	1	1.15	.64
Race x Treatment	1	1.74	.97
S. x R. x T.	1	.00	.00
Within	124	1.79	

* p<.10

** p<.05

TABLE 3

Product Moment Correlation Coefficients Showing the Relationship Between IE and Delay

	Hi-status Experimenter	Low-status Experimenter
Black Males	.257 (n = 14)	.031 (n = 26)
Black Females	-.188 (n = 19)	.060 (n = 17)
White Males	-.231 (n = 16)	.252 (n = 15)
White Females	-.162 (n = 11)	-.361 (n = 14)